REMARKS

Applicant respectfully requests consideration and allowance of the subject application. Applicant's amendments and remarks are in response to a Final Office Action dated April 22, 2002 and a subsequent Advisory Action dated September 9, 2002.

Claims 1-15 and 22-32 are pending, of which claims 1, 6, 11, 23, and 28 have been amended. The amendment to claims 1, 6, 11, 23, and 28 are for clarification, and are not to overcome prior art.

35 U.S.C. §103

Claims 1-15 and 22 are rejected under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 6,012,083 to Savitzky et al. (hereinafter, "Savitzky"), in view of U.S. Patent No. 5,956,483 to Grate et al. (hereinafter, "Grate") (*Final Office Action* p.2). It is noted that Microsoft is the owner of both the present application and Grate.

Although the Office does not initially indicate that claims 23-32 are rejected on page 2 of the Final Office Action, the claims appear to be rejected under 35 U.S.C. §103(a) for obviousness over Savitzky in view of Grate (*Final Office Action* pp.5-6). Accordingly, this response is based on the premise that claims 23-32 are rejected in view of the Savitzky-Grate combination. Applicant requests that the Office indicate the basis for rejecting claims 23-32 if otherwise.

Savitzky describes a third-party "agency" computing system that is interposed between one or more Web clients and one or more Web servers to interact with the clients and servers to transfer documents (col. 3, lines 32-37).

The Web clients and Web servers communicate documents via the agency with HTTP (hypertext transfer protocol) over a communication channel, such as the Internet (col. 5, lines 6-12).

Savitzky refers to applets, stating that "client-side code execution is limited to documents in which a server has included applets and is limited to use with applet-aware browsers" (col. 2, lines 41-43). This is essentially described in the "Background" section of Applicant's Specification and is an example of the very prior art that Applicant sought to overcome. Applets, by their very nature, raise security issues for local computer systems. In general, computer programs can be configured to cause harm to the local computer system. (*Specification* p.2, lines 24-26). Applet viewers prevent harm from execution of an applet. For example, applets are prevented by an applet viewer from writing data to any persistent storage, thus protecting current contents of the persistent storage. (*Specification* p.3, lines 2-7). A disadvantage of the isolation of applets is that other computer processes executing concurrently with and independently of the applet viewer cannot communicate with the applets. (*Specification* p.3, line 28 - p.4, line 1).

Grate describes a method for embedding client-side function calls within HTML (hypertext markup language) content such that a user can initiate an embedded function call by clicking on a corresponding button or link while viewing a document with a standard Web browser (col. 3, lines 13-22). Web function calling protocols are embodied within client and server software components which provide for the exchange of information between Web users and online merchants over the Internet (col. 3, lines 37-42).

Contrary to Savitzky and Grate, Applicant claims receiving a request for a document from an applet, where the request specifies a function, the execution of

which performs a task that is unrelated to both generation and retrieval of any document specified in the request (*see* claim 1, for example). Applicant describes an interprocess communication mechanism in which applets can receive and respond to processing requests of other computer processes, and which can send processing requests to such other computer processes without requiring modification of applet viewers. Additionally, computer system security is preserved with interprocess communication because an applet is denied direct access to computer system resources. (*Specification* p.5, lines 24-25).

> **Claim 1** recites a method for serving remote procedure calls from an applet which executes within an applet viewer which in turn executes in a computer system that is serving said remote procedure calls, the method comprising:
>
> receiving from the applet which executes in the same computer system that serves said remote procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;
>
> determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer and which includes one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request; and
>
> executing the function in the same computer system that is executing said applet and applet viewer to thereby cause execution of the one or more computer instructions in response to receipt of the request.

Savitzky and/or Grate do not teach or suggest the combination of elements recited in claim 1. Both Savitzky and Grate describe client *and* server systems communicating information between the systems via the Internet. However, claim 1 recites "an applet which executes within an applet viewer which in turn

executes in a computer system", "the applet which executes in the same computer system", and "executing the function in the same computer system that is executing said applet and applet viewer." Neither Savitzky nor Grate teach or suggest the combination of elements recited in claim 1 in a "same computer system" environment.

Furthermore, Savitzky does not teach or suggest both a request for a document *and* "determining that the request specifies a function..., execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request", as recited in claim 1.

The Office contends that Savitzky at col. 1, line 63 through col. 2, line 43 teaches the elements of claim 1 (*Final Office Action* pp.2-3). Applicant disagrees with this contention because the cited section of Savitzky describes examples of server-client communications that teach away from Applicant's claim 1. For example, the Office cites that Savitzky describes a client sending a document request to a server for a document in the form of a URL that refers to a program on the server (*Savitzky* col. 2, lines 1-5). The Office disregards, however, that Savitzky continues the description with "[t]he server generates a document in accordance with the program and returns that document to the browser." (*Savitzky* col. 2, lines 5-7). This is expressly contrary to the execution of a function "which performs a task which is *unrelated* to both generation and retrieval of any document specified in the request", as recited in claim 1. To return a document to a client browser, the document request of Savitzky would be related to the retrieval of the document.

With regards to "applets", Savitzky describes that "[w]ith client-side code execution, the client requests a document and the returned document contains

program code embedded in the document ..." which can be used for such tasks as animating graphic elements of a document (*Savitzky* col. 2, lines 25-31). This is also expressly contrary to "a request for a document" and "determining that the request specifies a function..., execution of which performs a task which is *unrelated* to both generation and retrieval of any document specified in the request", as positively recited in claim 1.

The Office states that it would be obvious that the applet generates the request since the request for a document is generated with client-side code execution and that "the script execution of generating the document is unrelated to the actual retrieval of the document" (*Office Action* p.3). Applicant disagrees that generating a document is unrelated to the retrieval of the document, as the Office contends. Savitzky clearly describes that "the server generates a document in accordance with the program and returns that document to the browser" (*Savitzky* col. 2, lines 5-7), and that with applets, the client requests a document and the returned document contains program code embedded in the document" (*Savitzky* col. 2, lines 25-27). Further, "client-side code execution is limited to documents in which a server has included applets" (*Savitzky* col. 2, lines 25-27).

Grate also does not teach both a request for a document *and* "determining that the request specifies a function..., execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request", as recited in claim 1. Grate says nothing about calling or requesting a function with a request for a document having an encoded remote procedure calling request, as claimed by the Applicant. To the contrary, Grate describes a simple, text-based format for embedding function calls within HTML documents (*Grate* col. 10, lines 45-47).

Accordingly, claim 1 is allowable over the Savitzky-Grate combination and Applicant respectfully requests that the §103 rejection be withdrawn.

Claims 2-5 and 22 are allowable by virtue of their dependency upon claim 1. Additionally, claims 3 and 4 are allowable over the Savitzky-Grate combination for independent reasons.

Claims 3 and 4 recite "returning to the applet result data produced by execution of the function" (claim 3), and "forming a document which includes the data and sending the document to the applet" (claim 4).

The additional elements recited in claim 4 is that result data produced by execution of the function (of claim 1) is included into a document and the document is sent to the applet. Neither Savitzky nor Grate teaches "forming a document which includes the data", and "sending the document to the applet", as recited in claim 4.

The Office contends that Savitzky at col. 2, lines 10-14, teaches forming a document which includes the data and sending the document to the applet in a "dynamic document of server side code execution" (*Office Action* p.4). Applicant disagrees that the document of Savitzky includes *the results of a function*, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request, as recited in the combination of claims 1, 3, and 4. Accordingly, claims 3 and 4 are allowable over the Savitzky-Grate combination.

Claim 6 recites "receiving from the applet ... a request for a document", and "determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer and which includes one or more selected computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request."

As described above in the response to the rejection of claim 1, Savitzky and/or Grate do not teach or suggest both a request for a document *and* "determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer..., execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request", as recited in claim 6.

Accordingly, claim 6 is allowable over the Savitzky-Grate combination and Applicant respectfully requests that the §103 rejection be withdrawn.

Claims 7-10 are allowable by virtue of their dependency upon claim 6. Additionally, claims 8 and 9 are allowable over the Savitzky-Grate combination for independent reasons.

Claims 8 and 9 recite "returning to the applet result data produced by execution of the function" (claim 8), and "forming a document which includes the result data and sending the document to the applet" (claim 9).

As described above in the response to the rejection of claims 3 and 4, neither Savitzky nor Grate teaches "forming a document which includes the result data", and "sending the document to the applet", as recited in claim 9. The document of Savitzky does not include the results of a function, execution of

which performs a task which is unrelated to both generation and retrieval of any document specified in the request, as recited in the combination of claims 6, 8, and 9. Accordingly, claims 8 and 9 are allowable over the Savitzky-Grate combination.

Claim 11 recites "receiving from the applet ... a request for a document" and "determining that the request specifies a function which is defined within the computer process and which includes one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request."

As described above in the response to the rejection of claim 1, Savitzky and/or Grate do not teach or suggest both a request for a document *and* "determining that the request specifies a function which is defined within the computer process and which includes one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request", as recited in claim 11.

Accordingly, claim 11 is allowable over the Savitzky-Grate combination and Applicant respectfully requests that the §103 rejection be withdrawn.

Claims 12-15 are allowable by virtue of their dependency upon claim 11. Additionally, claims 13 and 14 are allowable over the Savitzky-Grate combination for independent reasons.

Claims 13 and 14 recite "returning to the applet result data produced by execution of the function" (claim 13), and "forming a document which includes the result data and sending the document to the applet" (claim 14).

As described above in the response to the rejection of claims 3 and 4, neither Savitzky nor Grate teaches "forming a document which includes the result data", and "sending the document to the applet", as recited in claim 14. The document of Savitzky does not include the results of a function, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request, as recited in the combination of claims 11, 13, and 14. Accordingly, claims 13 and 14 are allowable over the Savitzky-Grate combination.

> **Claim 23** recites a method for serving remote procedure calls received from an instruction set that executes within a first computer process, the first computer process executing in a computing device that serves the remote procedure calls, the method comprising:
>
> receiving a request for a data file from the instruction set, the request according to a data file retrieval protocol;
>
> determining that the request for the data file specifies a function which is defined within a second computer process executing in the computing device independently of the instruction set and of the first computer process, the function including one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any data file specified in the request; and
>
> executing the function in the computing device to execute the one or more computer instructions in response to receipt of the request.

Savitzky and/or Grate do not teach or suggest the combination of elements recited in claim 23 in a single computing device environment. Both Savitzky and Grate describe client *and* server systems communicating information between the systems via the Internet. However, claim 23 describes first and second computer processes, and executing a function, in the same computing device.

Furthermore, neither Savitzky nor Grate teach or suggest both a request for a data file *and* "determining that the request for the data file specifies a function..., execution of which performs a task which is unrelated to both generation and retrieval of any data file specified in the request", as recited in claim 23.

Similarly to the rejection of claim 1, the Office contends that Savitzky teaches the elements of claim 23 (*Office Action* pp.5-6). As described above in the response to the rejection of claim 1, Savitzky describes examples of server-client communications that teach away from Applicant's claim 23. For example, Savitzky describes a client sending a document request to a server for a document in the form of a URL that refers to a program on the server and the server generates a document in accordance with the program and returns that document to the browser (*Savitzky* col. 2, lines 1-7). This is expressly contrary to the execution of a function "which performs a task which is *unrelated* to both generation and retrieval of any data file specified in the request", as recited in claim 23.

The Office states that it would be obvious "the script execution of generating the document is unrelated to the actual retrieval of the document" in Savitzky (*Office Action* p.5). Applicant disagrees that generating a document is unrelated to the retrieval of the document as the Office contends because Savitzky clearly describes that "the server generates a document in accordance with the program and returns that document to the browser" (*Savitzky* col. 2, lines 5-7), and that with applets, the client requests a document and the returned document contains program code embedded in the document" (*Savitzky* col. 2, lines 25-27). Further, "client-side code execution is limited to documents in which a server has

included applets" (*Savitzky* col. 2, lines 25-27).

Accordingly, claim 23 is allowable over the Savitzky-Grate combination and Applicant respectfully requests that the §103 rejection be withdrawn.

Claims 24-27 are allowable by virtue of their dependency upon claim 23. Additionally, claim 26 is allowable over the Savitzky-Grate combination for independent reasons. Claim 26 recites that "returning the result data comprises generating a document which includes the result data, and sending the document to the first computer process."

As described above in the response to the rejection of claim 4, neither Savitzky nor Grate teaches "generating a document which includes the result data", and "sending the document to the first computer process", as recited in claim 26. The document of Savitzky does not include the result data *of a function*, execution of which performs a task which is unrelated to both generation and retrieval of any data file specified in the request, as recited in the combination of claims 23 and 26. Accordingly, claim 26 is allowable over the Savitzky-Grate combination.

Claim 28 recites "receiving a request for a data file" and "determining that the request for the data file specifies a function..., execution of which performs a task which is unrelated to both generation and retrieval of any data file specified in the request".

As described above in the response to the rejection of claim 23, Savitzky and/or Grate do not teach or suggest both a request for a data file *and* "determining that the request for the data file specifies a function..., execution of

which performs a task which is unrelated to both generation and retrieval of any data file specified in the request", as recited in claim 28.

Accordingly, claim 28 is allowable over the Savitzky-Grate combination and Applicant respectfully requests that the §103 rejection be withdrawn.

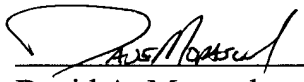
Claims 29-32 are allowable by virtue of their dependency upon claim 28. Additionally, claim 31 is allowable over the Savitzky-Grate combination for independent reasons. Claim 31 recites that "returning the result data comprises generating a document which includes the result data, and sending the document to the second computer process."

As described above in the response to the rejection of claim 26, neither Savitzky nor Grate teaches "generating a document which includes the result data", and "sending the document to the second computer process", as recited in claim 31. The document of Savitzky does not include the result data of a function, execution of which performs a task which is unrelated to both generation and retrieval of any data file specified in the request, as recited in the combination of claims 28 and 31. Accordingly, claim 31 is allowable over the Savitzky-Grate combination.

Conclusion

Pending claims 1-15 and 22-32 are in condition for allowance. Applicant respectfully requests consideration and issuance of the subject application. If any issues remain that preclude issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: Oct 22, 2002 By: 

David A. Morasch
Reg. No. 42,905
(509) 324-9256 ext. 210

Version of amended claims with markings to show changes made

1. (Twice Amended) A method for serving remote procedure calls from an applet which executes within an applet viewer which in turn executes in a computer system that is serving said remote procedure calls, the method comprising:

receiving from the applet which executes in the same computer system that serves said remote procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;

determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer and which includes one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request; and

executing the function in the same computer system that is executing said applet and applet viewer to thereby cause execution of the one or more computer instructions in response to receipt of the request.

6. **(Twice Amended)** A computer readable medium useful in association with a computer system which includes a processor and a memory, the computer readable medium including computer instructions which are configured to cause the computer to serve remote procedure calls from an applet, which executes within an applet viewer which in turn executes in the computer system that is serving said remote procedure calls, by performing the steps of:

receiving from the applet which executes in the same computer system that serves said procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;

determining that the request specifies a function which is defined within a computer process executing independently of the applet and applet viewer and which includes one or more selected computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request; and

executing the function in the same computer system that is executing said applet and applet viewer to thereby cause execution of the one or more selected computer instructions in response to receipt of the request.

11. (Three times Amended) A computer system comprising:

a processor;

a memory operatively coupled to the processor; and

a computer process which executes in the processor from the memory and which, when executed, serves remote procedure calls received from an applet which executes within an applet viewer which in turn executes in the processor from the memory concurrently and independently from the computer process, wherein the computer process serves the remote procedure calls by performing the steps of:

receiving from the applet which executes in the same computer system that serves remote procedure calls, a request for a document according to a document retrieval protocol implemented on a computer network;

determining that the request specifies a function which is defined within the computer process and which includes one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any document specified in the request; and

executing the function in the same computer system that is executing said applet and applet viewer to thereby cause execution of the one or more computer instructions in response to receipt of the request.

23. (Amended) A method for serving remote procedure calls received from an instruction set that executes within a first computer process, the first computer process executing in a computing device that serves the remote procedure calls, the method comprising:

receiving a request for a data file from the instruction set, the request according to a data file retrieval protocol;

determining that the request for the data file specifies a function which is defined within a second computer process executing in the computing device independently of the instruction set and of the first computer process, the function including one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any data file specified in the request; and

executing the function in the computing device to execute the one or more computer instructions in response to receipt of the request.

28. (Amended) A computer system comprising:

a processor;

a memory operatively coupled to the processor; and

a first computer process configured to execute in the processor from the memory, the first computer process further configured to serve remote procedure calls received from an instruction set that executes within a second computer process, the second computer process configured to execute in the processor from the memory concurrently and independently of the first computer process, wherein the first computer process serves the remote procedure calls by:

receiving a request for a data file from the instruction set, the request according to a data file retrieval protocol;

determining that the request for the data file specifies a function which is defined within the first computer process, the function including one or more computer instructions, execution of which performs a task which is unrelated to both generation and retrieval of any data file specified in the request; and

executing the function in the computing device to execute the one or more computer instructions in response to receipt of the request.